

Application No.: 10/541,700
Amendment dated: September 17, 2007
Reply to Office Action of March 16, 2007
Attorney Docket No.: 21295.0109US1

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REMARKS/ARGUMENTS

The Specification had been objected to because of a variety of informalities.

In the Specification, the paragraphs [0004], [0025], [0028], [0032] and the Title of the Invention have been amended to correct minor editorial problems, section headings have been added; no new matter has been introduced.

The Abstract of the Disclosure have been resubmitted on a separate sheet.

Cross-Reference to Related Applications section repeating the information originally submitted with the original application on its filing on July 7, 2005, has been added.

A superfluous heading "REFERENCE LIST:" and paragraphs [0049]-[0085] have been deleted.

Applicants believe that the above amendments overcome the Examiner's objections to the Specification.

Claims 1-23 had been rejected.

Claims 1, 3-11, and 13-23 are pending in this application. Claims 2 and 12 have been canceled without prejudice or disclaimer. Claims 1, 4-11, 13-15, and 17-23 have been amended as indicated hereinabove.

Claims 1-23 had been rejected under 35 U.S.C. 112, second paragraph, as being "generally narrative and indefinite, failing to conform to current U.S. practice" and containing "grammatical and idiomatic errors".

Claims 4, 7, 8, 10, 13, 17, 20, 21, and 23 had been rejected under 35 U.S.C. 112, second paragraph, as comprising a "broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation".

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It is believed that the above amendments overcome the rejections under 35 U.S.C. 112, second paragraph.

Claims 1-3, and 11-16 had been rejected under 35 U.S.C. 102(b) over Gugel et al. (US 2002/0109913, hereinafter, "Gugel"). This rejection is respectfully traversed for the following reasons.

It is well established that a claim is anticipated under 35 U.S.C. §102, only if each and every element of the claim is found in a single prior art reference.¹ Moreover, to anticipate a claim under 35 U.S.C. §102, a single source must contain each and every element of the claim "arranged as in the claim."²⁻³ Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference.⁴ If each and every element of a claim is not found in a single reference, there can be no anticipation.

Gugel describes a double confocal scanning microscope involving two interfering illuminating beams forming an illumination pattern in a specimen and two interfering detection beams forming a detection pattern in the specimen. Optical components located at the optical paths of the illuminating beams and/or the detection beams serve to alter the location and/or intensity of maxima and/or minima of the illumination pattern and/or detection pattern (see, for example, Figs. 3 and 4) to improve the performance of the microscope. Gugel describes a variety of such components, see [0020]-[0026].

The present invention involves confocal 4-pi microscopy where two interfering illuminating beams form an illumination pattern in a specimen and two interfering detection beams form a detection pattern in the specimen. One or more pupil filters, in particular, Toraldo filters, located at the optical paths of the illuminating beams and/or

¹ Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

² Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

³ Lewmar Marine Inc. v. Barient, Inc., 827 F.2d 744, 747, 3 U.S.P.Q. 2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988).

⁴ Titanium Metals Corp. v. Banner, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

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the detection beams serve to alter the location and/or intensity of maxima and/or minima of the illumination pattern and/or detection pattern (see, for example, Fig. 2) to improve microscopy performance. As described in paragraphs [0018]-[0021] and [0043], the Toraldo pupil filters have some inherent features which make them particularly suitable for practicing the invention.

Contrary to the present invention, neither Gugel nor any other publication cited by the Examiner in this Office Action uses or mentions Toraldo filters.

The amended Claim 1 comprises at least one Toraldo pupil filter at the optical path of at least one of the illuminating waves and/or the detection waves. This element is not found in Gugel or any other publication cited by the Examiner in this Office Action. Therefore, amended Claim 1 is patentable over Gugel under 35 U.S.C. 102(b) and should be allowed.

The above-presented argument also supports patentability of Claims 3, 11, and 13-16. Allowance of the referenced Claims is respectfully solicited.

Claims 4 and 17 have been rejected under 35 U.S.C. 103(a) over Gugel in view of Denk et al (EP 0807814, hereinafter, "Denk").

For an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case of obviousness. The Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the cited publications, which must have a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references.⁵ The cited publications should explicitly provide a reasonable expectation of success, determined from the position of one of ordinary skill in the art at the time the invention was made.⁶

⁵ In re Lee, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002).

⁶ In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); Amgen v. Chugai Pharmaceuticals Co., 18 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

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Dependent Claim 4 comprises all elements of amended independent Claim 1 including at least one Toraldo pupil filter at the optical path of at least one of the illuminating waves and/or the detection waves. This element is not taught or suggested in Gugel, Denk, any other publication cited by the Examiner in this Office Action, or their combination. Therefore, Claim 4 is patentable and nonobvious over Gugel and Denk under 35 U.S.C. 103(a) and should be allowed.

Dependent Claim 17 comprises all elements of amended independent Claim 11 including at least one Toraldo pupil filter at the optical path of at least one of the illuminating waves and/or the detection waves. This element is not taught or suggested in Gugel, Denk, any other publication cited by the Examiner in this Office Action, or their combination. Therefore, Claim 17 is patentable and nonobvious over Gugel and Denk under 35 U.S.C. 103(a) and should be allowed.

Claims 5 and 18 have been rejected under 35 U.S.C. 103(a) over Gugel in view of Engelhardt et al (US 2002/027709, hereinafter, "Engelhardt").

Dependent Claim 5 comprises all elements of amended independent Claim 1 including at least one Toraldo pupil filter at the optical path of at least one of the illuminating waves and/or the detection waves. This element is not taught or suggested in Gugel, Engelhardt, any other publication cited by the Examiner in this Office Action, or their combination. Therefore, Claim 5 is patentable and nonobvious over Gugel and Engelhardt under 35 U.S.C. 103(a) and should be allowed.

Dependent Claim 18 comprises all elements of amended independent Claim 11 including at least one Toraldo pupil filter at the optical path of at least one of the illuminating waves and/or the detection waves. This element is not taught or suggested in Gugel, Engelhardt, any other publication cited by the Examiner in this Office Action, or their combination. Therefore, Claim 18 is patentable and nonobvious over Gugel and Engelhardt under 35 U.S.C. 103(a) and should be allowed.

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Claims 6-10 and 19-23 have been rejected under 35 U.S.C. 103(a) over Gugel et al (US 2002/01099913).

Dependent Claims 6-10 comprise all elements of amended independent Claim 1 including at least one Toraldo pupil filter at the optical path of at least one of the illuminating waves and/or the detection waves. This element is not taught or suggested in Gugel, any other publication cited by the Examiner in this Office Action, or their combination. Therefore, Claims 6-10 are patentable and nonobvious over Gugel under 35 U.S.C. 103(a) and should be allowed.

Dependent Claims 19-23 comprise all elements of amended independent Claim 11 including at least one Toraldo pupil filter at the optical path of at least one of the illuminating waves and/or the detection waves. This element is not taught or suggested in Gugel, any other publication cited by the Examiner in this Office Action, or their combination. Therefore, Claims 19-23 are patentable and nonobvious over Gugel under 35 U.S.C. 103(a) and should be allowed.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited in this case. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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